

GnP CMP

STANDARD OPERATING PROCEDURE

CORAL
Name: *GnP*

Model: --

Number: --

Location: ICL

What it
does: Chemical-Mechanical Planarization

- Procedure:
1. Engage Tool in CORAL.
 2. Check Valves located on wall behind tool, nitrogen, and DI water should be open and are labeled.
 3. Turn power switch on located on front of tool.
 4. Tool will be in alarm, hit the reset button on front of tool.
 5. Turn off DI water located inside of left cabinet up top. Move tubes out of the way to the right.
 6. Mount Wafer chuck.
 7. Loosen screw located on back of head axis inside of tool approx 5 turns.
 8. Grab 4" or 6" wafer chuck located on wire rack or sink, and match the numbers on top of the wafer chuck, 1,2,3 to the numbers on the head axis, connect head to head axis and turn left.
 9. Place plastic spacer (which is located on top of tool) on platen under the head, go into manual mode by Using the touch screen, make sure wafer pressure and R-Ring pressure is set to 0 and select the head down option and head will lower.
 10. Tighten screw located in back of head axis until head pressure reaches 45, digital gauge is located to the right of the head axis.
 11. Use locking nut to clamp head axis to wafer chuck, tighten locking nut with red allen wrench until digital gauge reaches 80.
 12. On the manual screen select head down to raise the wafer chuck, place plastic spacer back on top of tool. Move tubes back to center of platen and attach to Velcro turn DI water back on under tool.

Condition Pad

1. In manual mode select platen, conditioner, DI water and hit start, condition will run for 300s. When Conditioning is finished select platen, conditioner, and DI water to turn off.

Wafer Polishing

1. Take white plastic container and proceed to room 233 next room over there will be a big slurry container with a diaphragm pump mounted to it, there will be a valve with a red knob turn that valve off, there is another valve that branches off of the red valve it has a hose attached to it that is located inside of slurry container take that out and place hose inside of white container and turn black valve on. Fill container about half way shut black valve off place hose back inside of tank, turn red valve back on should hear pump start pumping again.
2. Place white container with slurry next to the tool and place Pump 1 inside of slurry.
3. Take your wafer and rinse the side you don't want polished, with your wafer in your left hand place under wafer chuck until you feel it slide into the retaining while holding wafer with your left hand reach up to tool and press Green wafer chucking button and let go of wafer. Close doors.
4. Go into auto mode and select auto 1, on bottom of screen select 4" or 6" wafer and hit enter. Hit start. Auto 1 Recipe is setup to remove approx 900-1000 angstroms of thermal oxide.
5. When wafer is done polishing remove from chuck by pressing green wafer chucking button rinse immediately with DI gun inside the tool on the left.
6. Take wafer over to sink and turn DI water on hold wafer underneath and wash polished surface with White sponges inside of glass dish.
7. When done cleaning place inside of wafer carrier filled with DI water.

Clean up/wafer chuck removal

1. Take white container with left over slurry and return to room 233 to big slurry tank, wash out container and place back on sink.
2. Take container filled with DI water and place Pump 1 line inside of water, go into manual screen and select pump 1 and wait until line runs clear with DI water, once line is cleaned select pump 1 to turn off.
3. Take plastic spacer and place on platen under the head, in manual screen select head down. Take allen wrench and take off locking nut holding together the wafer chuck to the head axis, once locking nut is off place on wire rack.
4. Turn the screw in back of the head axis about 7 full turns. In manual screen select head down to raise wafer chuck, grab a hold of wafer chuck lift up and turn right to remove wafer chuck from head axis.
5. Make sure to rinse wafer chuck thoroughly with DI water and return to sink.
6. With the DI gun inside of tool rinse platen with water.
7. Use fab wipes to dry up any water or slurry inside of machine.
8. Disengage from Coral.
9. Turn Power off.

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