372 Westech

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Operations Procedure

Steps:

Starting Procedure

1. Turn On Vacuum, or confirm that it is on.
2. Set Cycle Mode to “Manual” (Right Side of Operations Panel)
3. Wafer Status/ Toggle Wafer Status to say “Arm”

Closing Procedure

1. Set Cycle Mode to “Continuous”
2. Toggle On Clean Head Cycle
   1. This should bring the Carrier Head to the cleaning position to keep it moist.
3. Toggle “No Wafer” for the Carrier Head/ Arm.
   1. Done through Wafer Status
4. Turn Off Vacuum.

Run Procedure

1. Confirm that you have the correct recipe.
   1. You can change this in Setup Data Storage.
      1. Select the correct recipe and the Hold “Load” until you see that it has been loaded.
   2. Confirm that you have the correct recipe parameters in place.
      1. This can see don under the Setup Panel.
         1. Times/ Flow rates/ ETC can be adjusted here for the different phases in your recipe.
2. Hold wafer polishing side down under the Carrier Head.
3. Hold “Manual Load/Unload” button
   1. This will release water form the Carrier Head so that you can position your wafer properly in the retaining ring.
4. Release “Manual Load/Unload” button
   1. Vacuum will establish a firm hold of the wafer. (Should read 615 hPa on display / 10 to 20 psi on recessed gauge above hood.)
5. Press “Final Polish Cycle”
6. When cycle has ended remove wafer.
   1. Do this by holding the “Manual Load/Unload” button.
      1. Be careful to have a hand on the Carrier Head to catch the wafer.

Recipes (On the Back of Tool)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Recipe | Process | Slurry | Pad | Platen/Carrier  (rpm) | Down Force/Back Pressure (psi) | Filter (Y/N) | Platen | Flow (ml/min) | Slurry Line | Conditioner | Notes |
| L-CUC POLITEX | TaN/TiN Smoothing | CuC | Politex | 70/38 | 3.0/0.5 | Y | Final | 150 | 2 | - | - |
| P-L3-NALCO-5DF | Si CMP | NALCO | VP5000XY | 120/90 | 5.0/2.5 | N | Primary | 200 | 3 | NALCO | -Intention is to clear Si quickly. To later expose TSVs with D112 slowly. Needs to be done with D112 because the NALCO was leaving slurry particles in the TSV seams. |
| P-L1-D112-BUFF | Si CMP | D112 | VP5000XY | 120/90 | 5.0/2.5 | N | Primary | 200 | 1 | NALCO | -Intention is to clear Si to expose TSVs slowly. TSV to be knocked down later with V2. |
| P-L2-CuC-5DF | TSV Knockdown | V2Ta33 | VP5000XY | 70/38 | 5.0/1.5 |  | Primary | 200 | 2 | NALCO | -Intention is to “knockdown” or planarize TSVs that are sticking up. |

Recording on MRL Track

Recipe: Platen/Carrier Speed, Down Force/ Back Pressure, Slurry, Pad

Wafer = Time

Calibration

* Do this About every 10 or so wafers. The Arm starts to bump into the Shield due to a drift.

Arm Calibration - Menu/ Machine Calibration/ Arm Position/ Load Position/ Move Wafer to Position

Oxalic Pressurized

* When running the Ontrack brush cleaner. Be sure to make sure that you have a enough Oxalic 5g/L in the pressurized vessel. 15 psi is the best vessel pressure.
  + Remember to fill out the log.
* To Confirm that you have enough Oxalic 5g/L

1. Close the black knob of the air valve on top of the vessel.
2. Bleed the existing pressure inside vessel. Pressure release is a pin with a metal loop that you pull up on.
   1. Bleed until gauge reads 0 psi
3. Now open the lid on the vessel.
   1. Pull back the handle on the lid to free the clamps holding it down.
   2. While holding onto the lid handle, push in on the lid and rotate 90 degrees. This should give you the room to remove the lid completely.
4. Now fill the vessel up and close and clamp the lid into place.
5. Open the black knob of the air valve.
   1. After a minute psi should reach 15.
6. Fill out the log on the wall.