

DEEP REACTIVE ION ETCHING (DRIE) SOP

Revised May 2020

Loading a sample and cleaning the chamber

1. Log into your FOM to start the session to use the tool.
2. Click on **VENT**. Wait approximately 3 minutes for the load lock pressure to come to atmospheric pressure. Once complete, lift the load lock door and place your wafer in one of the three numbered wafer holders.
3. Close the load lock door and click **PUMP + MAP**.
4. When the load lock is pumped down to the appropriate vacuum level the **LOAD** button will become available.
5. **NOTE:** You must first run a 10-minute chamber clean on the processing chamber before processing any recipes on your sample.



Follow the procedure below to perform a chamber clean.

- a. Enter the number of the chamber clean wafer from the carousel into the **SLOT** window.
- b. Click on **LOAD** to load the chamber clean wafer into the processing chamber.
- c. Click on **SELECT** and pick the **O2CLEAN** recipe.
- d. Click on **PROCESS**. This should start the 10-minute chamber clean process.
- e. When the process is complete, click **UNLOAD**.

Running a recipe on your wafer

NOTE: Etching that goes through more than ½ of the wafer must be placed on a **handle wafer!!!** Otherwise your wafer may crack into pieces in the processing chamber.

1. Enter the number of your wafer from the carousel into the **SLOT** window.
2. Click **LOAD** to load your wafer into the processing chamber.
3. Click on **RECIPE** and modify or verify your recipe parameters followed by saving your recipe or save with a new name.

NOTE: You are only allowed to modify the process time in the Default recipe. If you wish to make other changes then save the recipe under a different name.

4. Click on **SELECT** and pick the recipe you wish to process.
5. Click on **PROCESS** to begin processing.
6. During the **HELIUM LEAK UP CHECK** if the value exceeds 10 after 30 seconds contact the MNTC staff. If you need to discontinue your process at any time, click **ABORT**.

Unloading a sample

1. When the process is completed click **UNLOAD**.
2. You may inspect your wafer in the load lock before venting to the atmosphere. If required, you may process your wafer again.
3. If you are ready to remove your wafer from the load lock, click on **VENT**. After the chamber is vented you will be able to open the load lock door and remove your sample.
4. Press **PUMP +MAP** to pump down the load lock.

NOTE: DO NOT LEAVE THE LOAD LOCK OPEN TO ATMOSPHERE

5. Logout from the tool in your FOM account.