

VEECO Ion Beam Deposition Tool

Operating Instructions

- Sign on
 - Click on your name. Note your user number- this will prefix all your custom recipes
 - Sign On
 - Enter your password (User ID Number)
- Main Menu
- Process Create
 - Load template process or your own process
 - e.g. 1 Ta205 dep
 - Save process as
 - e.g. 99_Ta205_dep
 - Convert ALL template steps and subroutines to your own versions, if you are making a custom process:
 - In template process, select 1st step or subroutine
 - Expand subroutine, and click on 1st step
 - Click on step bubble in top left corner
 - Save step as e.g. 99_step_name, using your user number from the logon screen as the prefix
 - Repeat for all other steps in the template you are copying
 - Select 1 subroutine in template process
 - Click on subroutine bubble in top left corner of screen and load sub you want to re-name
 - Save Sub as e.g. 99_sub_name
 - Replace all template steps in your subroutine with your versions of those steps, using insert step and delete step buttons
 - Replace all template subroutines with your versions of those subroutines
 - Ensure that your entire process contains only your own subroutines and steps, or common unnamed steps such as warmup_150 or shut_n-pump_down
 - Save your process
 - Main Menu
 - Process Control
 - Vent in the miniloader menu. Wait for loadlock door to release
 - Remove sample carrier, place sample on carrier
 - *** Unusually thick or heavy samples or extra sample tooling may prevent the robotic arm from working. Do not use additional tooling, e.g. facet coating fixtures, without discussing them with the cleanroom staff first.***
 - Select process from pull down menu
 - Process wafer
 - Monitor the beginning of the deposition and make sure both the Assist and Depo RFNs ignite (emission current on rack module should be ~20mA).

- Entire process should run automatically, including loading sample into system, warmup, deposition, and returning sample to loadlock. Progress is indicated on graphical display.
- If program aborts:
 - Record main step, sub step, and elapsed and remaining times, in upper right corner of screen. This allows editing program and finishing film
 - Record error message shown in red at bottom of screen
 - Click on red alarm button to clear error message
 - Click Auto Unload to remove sample from system
 - Edit program, select edited program, and re-process sample
- To stop a running program, press STOP button in Process window in upper left corner of screen.
 - *** Do not press GENERAL ABORT***
 - This would ungracefully shut down all operation
- When done:
 - Return sample holder and close loadlock door
 - Pump down
 - Check graphical display to ensure:
 - Loadlock is pumping down
 - Chamber turbo gate valve is open
 - Main chamber pressure is below $1\text{E-}6$ (no gasses are flowing)
 - *** The small xenon gas bottle costs \$8,000. Do not accidentally leave system while gas is flowing.***
 - Fill out logbook
 - Sign off

NOTES:

Grid Cleaning:

- For every 1 hr of dep run 5 min of Grid Clean
- Max 2 hrs of dep before splitting up process & running Grid Clean
- If you are paranoid, you may run up to 15 min of Grid Clean - DO NOT EXCEED THIS!!