Evaporator reservations are made using the EPIC FOM online reservation system. Please follow all EPIC facility rules for using this system. DO NOT USE THE THERMAL EVAPORATOR IF YOU HAVE NOT RECEIVED TRAINING.

Note: It is imperative that gloves be worn during all sample exchange procedures. If you cannot find any gloves, please ask!

**System Startup**

1. Log in to FOM and log in to your reservation.
2. Log into the **Shortcut to Cware** software if it is not already running. At the top right of the interface select **login here**
   - Username: admin
   - Password: admin
3. Open the Nitrogen tank valve to the right of the evaporator (100 psi)
4. In the **Vacuum** screen, select **Start PC Vent** on the right-hand side. When the system is done venting you can select **OK** on the pop-up window, and open the chamber door.
   Optional: Under the **Deposition** menu select **Source Shutter 1** on the left. This will move the shutter out of the way if you are adding metal.
5. Remove the appropriate metal boat with a hex screw, *weigh it*, then add metal, *weigh the boat again* and place it back in the chamber. Note how much the metal you added weighed. The boats are in order from left to right, 1-3. Boat 1 is for Chromium and Boat 3 is for Gold. If you are coating a different metal, please use the center boat holder (Boat 2). If you need to add metal, you should add approximately 10 pellets.
6. Remove the round sample holder at the top of the chamber and place your sample into one of the metal clips. Place the holder with your sample back in the chamber and make sure it clicks in place.
7. Close the chamber door. If you opened the source shutter, close it by selecting **source shutter 1** on the Deposition menu.
8. Select **Start PC Pump** on the right-hand side of the screen.
9. Select the **Sigma** menu. If the Sigma software is not currently running in the task bar, you will need to open the software by selecting **Sigma Launch 242** on the
left-hand side of the screen (select Off to turn it ON). Click **OK** instead of entering a username and password.

11. Open the Sigma software. Select **Edit** then **Films**. Here you can select an existing film, or create a new film. If you need to create a new film, please see Ben or Kate.

12. Select the appropriate film and then **Close Form** on the left-hand side of the screen.

13. Select **Edit** and **Process**. Select the appropriate process/film.

14. Under the **Layer** tab select the film you are using and select the appropriate thickness.

15. Under the **Source Sensor** tab choose the appropriate material. This menu is also where the tooling factor is set.
   - There should just be one tooling factor set, and that is for sensor 1.
   - The max power should never be above 65%
   - Slew rate 100.00

16. Under the **Error** menu only **crystal fail enabled** should be checked.

17. **Close Form**

**Note:** Anytime you add new material, or the source is not completely melted, you should run the evaporator with the appropriate film selected, and the shutter closed just to melt the source before running your process with the shutter open.

Coating: (Note: Cr WILL NOT MELT)

1. Go back to the KJLC software.
2. Under the **Deposition** menu, make sure the **Shutter Source 1** is closed, and also select the appropriate **Boat/Source** by clicking on it to highlight it.
3. Turn on the **Power Supply** by clicking **ON**. Enter a power supply of 30% and get the dark glasses to watch for the metal melting in the boat. After a few minutes if the metal is not melting, you can increase the power supply by increments of 5% and waiting to see if the metal is melted. Au should melt at 30% or 35%.
4. When the metal is melted you are ready to turn on the process you created and start coating. To do this you need to enter the **Sigma** portion of the KJLC software, and make sure that the **Signal process name** in green type matches the **sigma control request** film in white type.
5. Select **Sigma start process ON**, and the system will run through the process and apply the desired coating.
6. When coating is finished, in the **Deposition** menu turn the **Power Supply Off**, and the Boat power **Off**. Under the **Vacuum** select **PC Vent**.
7. When the system is done venting click **OK**. **DO NOT ATTEMPT TO REMOVE YOUR SAMPLES UNTIL YOU HAVE WAITED 15-20 MINUTES. THE SYSTEM WILL BE VERY HOT!!!!**
8. Remove your sample, and remove the boat you used. You can move the source shutter to do this.
9. Weigh the boat and note how much metal was consumed. You will enter this value in FOM when you log out.
10. When the boat is placed back in the chamber and the source shutter is closed you can pump the chamber down by selecting **Start PC Pump**.
11. Make sure the chamber pumps down and log out of FOM.