

## Rapid Thermal Annealing

- Setup
  1. Sign out the RTP key in the main office.
  2. Turn on the right HX300 chiller. Wait for the temperature to be displayed and press the “Start/Stop” button. **Place the RTP tag on the chiller.** The RTP chiller is shared with the XRD system. The tag ensures that no one turns off the chiller while it’s in use.
  3. Open the gases needed near the wall in the hallway. NCF provides nitrogen and oxygen gases.
  4. Next to the RTP system, open the nitrogen valve on the wall next to the system.
  5. Open the compressed air valve and open valve labeled **CDA** on table.
  6. Record the system time in the logbook.
  7. Remember to **Start** your reservation on I-Lab before you start.
  8. Insert the key, turn it to the on position and press “Emo Reset”
  9. Press the “Power On” button.

Follow the on-screen instructions to either create, edit, or run a recipe.

**Once a recipe is created or edited, remember to validate the recipe by pressing F10 before trying to save it. It’s a good idea to run a dummy to ensure your recipe runs as you want it to.**

**To load the sample, lift the handle and VERY GENTLY pull the door out. The door can be a little hard to open, so be patient and pull gently.**

**Take out the 3in wafer first and then place the sample on it. Then put the 3in wafer back in. ALWAYS WEAR GLOVES WHEN HANDLING THE WAFER. MAKE SURE THE THERMOCOUPLE IS TOUCHING THE BACK OF THE CARRIER WAFER!!!**

When putting back the 3in wafer, make sure the back is touching the thermocouple on the bottom.

- Running
  1. Follow on screen prompts and go to the run process menu.
  2. Press “Enter” to run the recipe.
  3. Once recipe is done, leave the sample(s) in the chamber until the temperature falls below 100 °C to prevent oxidation. You can wait longer if you sample is sensitive to atmosphere.
  4. Once done, “Press Esc” to go back to the recipes page.
  5. “Press Esc” to go back to the main menu.
  6. Press “Q” to exit the software.
  7. Turn the key to the off position and press the “Power Off” button.
  8. Remove key and close all valves. Close the gas tank in the hallway.
  9. Record the system time in the logbook when you finish.
  10. Remember to **End** your reservation on I-Lab before you start.
  11. Wait 20 minutes before turning off the chiller. **IF THE XRD TAG IS ON THE CHILLER, DO NOT TURN IT OFF!** If not, press the “Start/Stop” button and wait for the display to be stop blinking. Turn off the right HX300 chiller. Then put the RTP tag back.
  12. Remember to **End** your reservation on I-Lab before you start.