

UNIVERSITY OF CALIFORNIA
Santa Barbara
Electrical and Computer Engineering Department

Semiconductor Device Processing

Furnace cleanliness instructions

Even the slightest traces of dirt, grease, etc. will contaminate the furnaces and ruin them for use by others. Consequently everyone must follow the procedure below at all times.

1. Do not touch anything going into the furnace with your bare hands. Use plastic gloves and **metal tweezers**.
2. Only hold quartz rod by handle, do not touch anywhere else.
3. The "Wafer Cleaning Procedure" must be followed prior to using the Oxidation furnace, the Phosphorus predeposition furnace or the Boron predeposition furnace. If you are going directly from a predeposition furnace to a drive-in/oxidation furnace, a minimum of a 1 minute dip in 50:1 HF is required. If your wafer has been subjected to contamination between a predeposition and drive-in, the "Wafer Cleaning Procedure" must be repeated.
4. **Use the proper boat, boat holder, and push rod. Each furnace has its own set.**
5. When loading and unloading wafers, set the endcap temporarily on the designated glass plate (NOT ON THE TABLE!). Replace endcap on tube when finished. **Always wear the thermally insulating gloves while handling the endcap.**
6. Boats should be stored in the quartz loading elephant when not in use.
7. If the rod, boat, or quartz elephant (holder) is contaminated, YOU MUST CONTACT BOB HILL AND LEAVE A NOTE WHICH CAN EASILY BE SEEN BY ALL OTHER USERS.