

Example steps for electron beam evaporation

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| Load glass slides | 1. Attach the glass slides with patterned photoresist to the substrate holder.
2. Close the vacuum chamber lid and shutter to block the slides from the metal source.
3. Pump the chamber down to a maximum pressure of 1×10^{-7} Torr. |
| Deposit titanium | 4. Turn on the current and slowly increase it to melt Ti boule at the lowest pressure possible.
5. Open the shutter and evaporate Ti at a rate of 2 \AA/s for a total of 75 \AA .
6. Close the shutter, turn off the current, and let Ti boule cool and pressure returns to 1×10^{-7} Torr. |
| Deposit platinum | 7. Turn on the current and slowly increase the current to melt Pt at the lowest pressure possible.
8. Open the shutter and evaporate Pt at a rate of 2 \AA/s for a total of 250 \AA . Pressure will increase to $\sim 2 \times 10^{-6}$ Torr.
9. Close the shutter and turn off the current. Let the boule cool and let the pressure return to 1×10^{-7} Torr. |
| Deposit gold | 10. Turn on the current and slowly increase the current to melt Au at the lowest pressure as possible.
11. Open the shutter and evaporate Au at a rate of 2 \AA/s for a total of 250 \AA . Pressure will increase to $\sim 2 \times 10^{-6}$ Torr.
12. Close the shutter and turn off the current. |
| Retrieve slides | 13. Wait for 20–30 min for the chamber to cool down
14. Open the chamber and remove the slides from the substrate holder. |