

Thermal Evaporation

Post-Lab Questions

1. Finish the following table during class:

Mechanical pumping time (s)	
Pressure to switch to turbo pump (mTorr)	
Background pressure (Torr)	
Pump down time (s)	
Thickness obtained (nm)	
Deposition Rate (nm/s)	
Sheet resistance obtained (Ω)	
Resistivity of the metal film ($\Omega\text{-m}$)	

2. Which are the most critical steps during the thermal evaporation? Why?
3. Why do we measure resistivity instead of resistance to verify metal deposition?
4. What would have happened if we had obtained different color metals on the samples after evaporation?
5. If we need to deposit tungsten (W) instead of aluminum, what kind of changes do we need to perform in the procedure?