

**Thin film Process :** Thin film deposition by thermal and evaporation technique (Metal films)

**Equipment:** Thermal Evaporation & E-beam evaporation system (In-house fabricated) -3

**Photograph :**



**Basic Principle:** In thermal Evaporation technique basically, material is heated in a vacuum chamber until its surface atoms have sufficient energy to leave the surface. At this point they will traverse the vacuum chamber, and coat a substrate positioned above the evaporating material.

In Electron Beam technique a target anode is bombarded with an electron beam given off by a charged tungsten filament under high vacuum. The electron beam causes atoms from the target to transform into the vapor phase. These atoms then precipitate into solid form, coating substrate positioned above the evaporating material with a thin layer of the anode material. .

**Capabilities:** Fully manual operational, substrate temperature upto 250 °C, for metal films only.

**Sample requirements :** Max sample size 2" x 2"