Edward’s electron-beam evaporator located in the Class-1000 cleanroom and is used to deposit thin layers of metal films.

Metal is heated by an electron beam until it evaporates at temperatures as high as 3300°C. Thin layers of evaporated material then coat the samples.

The e-beam evaporator works under vacuum, at a pressure of $5 \times 10^{-6} - 1 \times 10^{-7}$ Torr (approximately 1 billionth of an atmosphere). This pressure is achieved using a mechanical pump and cryo-pump.