Scanning Electron Microscope (SEM)

MANUFACTURER : JEOL

MODEL : JSM 6300F

Samples

- Samples size: 100 mm (4 in.) maximum

Analysis

- High resolution surface imaging
- Lateral resolution : ~ 3 nm

Variants

- Detection of back-scattered electrons for phase analysis
- Detection and quantification of the elements via Energy Dispersive Spectrometry (EDS) for the determination of the chemical composition

Characteristics

- Probe current : 10^{-12} A to 10^{-10} A
- Working Distance (WD): 3 mm to 53 mm
- Magnification : 10X (WD = 39 mm) to 500,000X

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ELECTRON GUN

- Field effect (cold cathode)
- Accelerating voltage: 0.5 to 30 kV
- Tip made from Tungsten <310>

DETECTORS

- Scintillator for secondary electrons
- Si PN junction for back-scattered electrons
- X-ray detector for EDS analysis (all elements starting from Carbon)

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CHARACTERIZATION