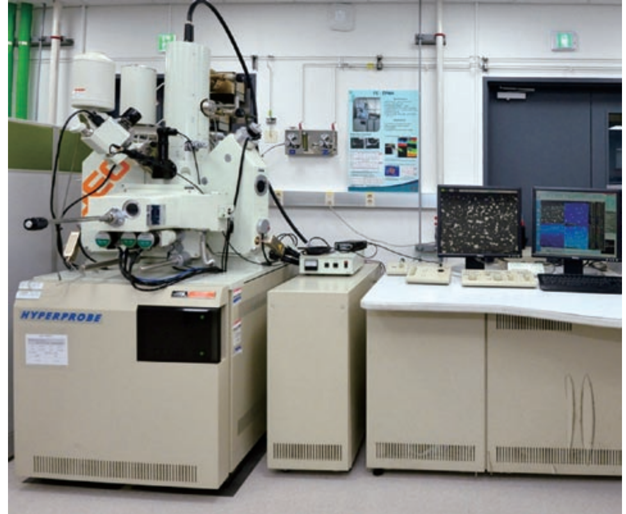
EPMA (JXA-8500F)

전자탐침미소분석기

The FEG-EPMA (Field Emission Gun Electron Probe Micro Analyzer) utilizes X-ray spectrometry and allows for high speed, high accuracy qualitative and quantitative in-depth surface analysis as well as area analysis. The FEG-EPMA employs a patented "in-lens" Schottky type field emission electron gun.
WDS (wavelength dispersive X-ray spectrometer), high probe current, and small probe diameter, the FEG-EPMA is capable of extreme elemental analysis of sub-micron areas.



Model

JEOL (JXA-8500F)

Location L5145 Tel.02-958-5540

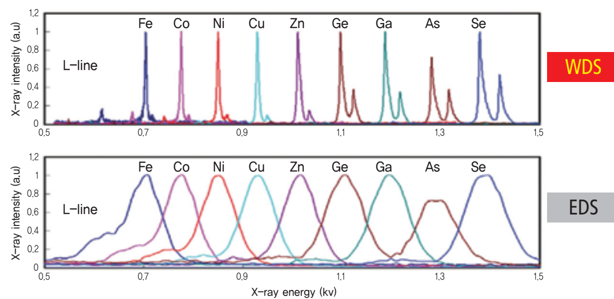
Specifications

- Source : Schottky FEG
- Accelerating voltage : 1 ~ 30 kV
- Image resolution : 3 nm (WD : 11 mm, 30 kV)
- Magnification : 40 ~ 300,000X (WD : 11 mm)
- WDS (3ch) and EDS (1ch)
- Type of crystals : TAP, LDE2, LIF, LIFH, PETJ, PETH

Applications

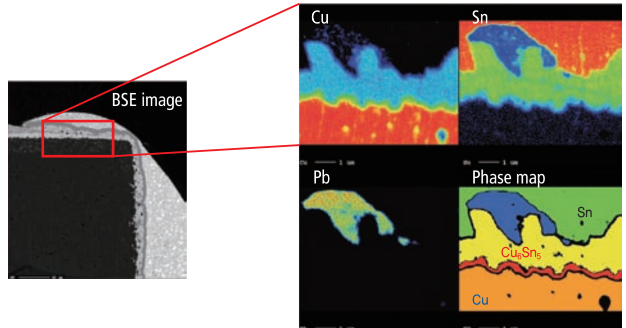
- Topography and composition images
- Qualitative & quantitative analysis
- Line analysis
- Map analysis & Phase analysis

Comparison of X-ray peaks by WDS and EDS



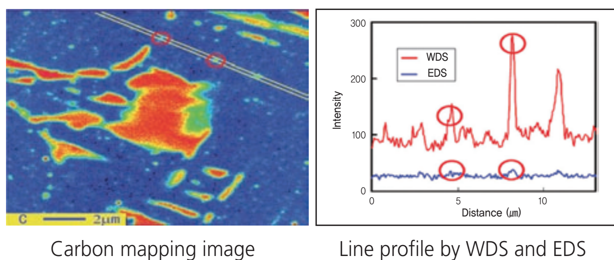
In a WDS X-ray peaks do not overlap, but in an EDS X-ray peaks of neighboring elements extensively overlap each other

Map analysis & phase analysis



Analysis of inter face layers of Cu electrode (fine eutectic layers in a solder)

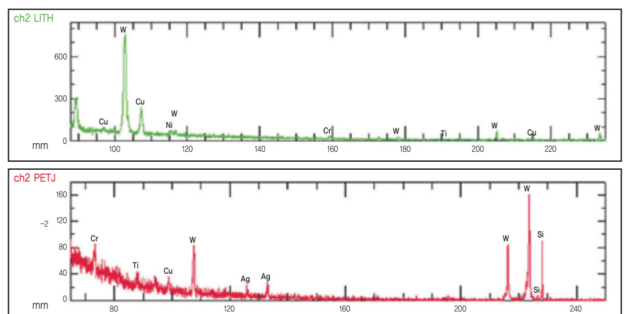
Comparison of line analysis by WDS and EDS



Carbon mapping image Line profile by WDS and EDS

Observation of small particles in a corrosion-resisting steel (NbC) to protect from high

Qualitative & quantitative analysis



Qualitative analysis of Tungsten silicide (WSi_2)