Analysis with Separation of As and Pb in Iron and Steel - ElementEye JSX-1000S

Secondary Filter

Sum Peak Removal Software

Smart FP Method

Iron and Steel are general-purpose materials. However, with existing RoHS analysis, it has not been possible to differentiate between Pb or As contained in the material. With Element Eye, quantitative analysis is possible with highly-precise separation of As and Pb by using secondary filter + sum peak removal software＋ smart FP method.

Conventional Result

With the presence of the Fe sum peak, it is not possible to confirm the presence of the PbLb peak. Therefore, it is not possible to determine whether the 10.5keV peak comes from As or Pb.

Pb?   As?
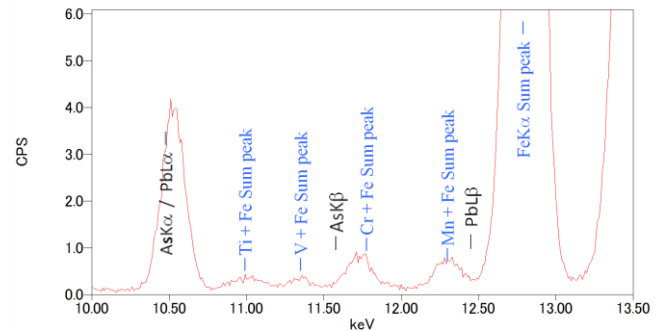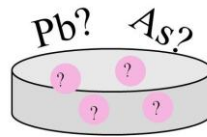
Result with Secondary Filter

The Fe sum peak is reduced. This makes it clear that there is almost no PbLb, and that the 10.5keV peak is due to the presence of As.The small sum peak around the 11 to12.5keV band also disappeared, and confirmation of AsKb is possible.

As!!
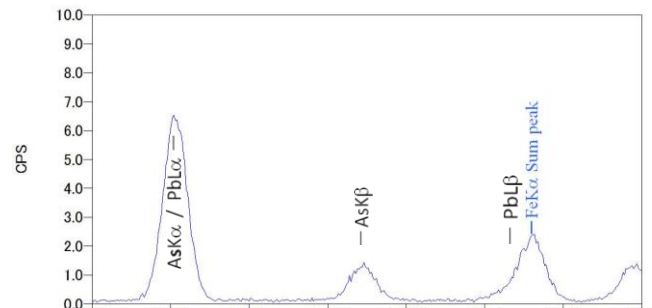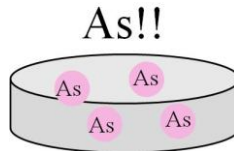
Result with Sum Peak Removal Software

In addition, using sum peak removal software (option), the Fe sum peak is compensated for even further, and the original spectrum without the sum peak is obtained. This spectrum shows that PbLb does exists, although only a trace level.

As＋trace Pb
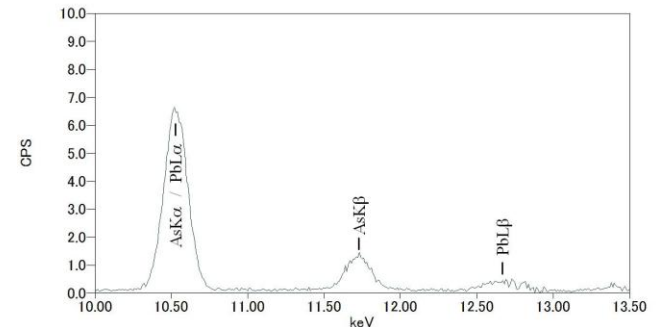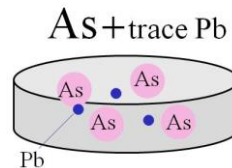
Analysis Result Using the Smart FP Method

With the smart FP method, every peak such as the Pb La line and Lb line, and the As Ka line and Kb line are utilized for quantitative analysis. Therefore, as quantification is conducted by separating the 10.5keV peak, according to the intensity ratios of the Pb La and Lb, and the As Ka and Kb, precise quantitative analysis is possible.

※ The analysis values are the values using the filter FP method (option). With the RoHS solution, the equivalent value is shown only for the Pb result.

Element	Standard Value (ppm)	Analysis Result (ppm)	Calibration Curve (ppm)
Pb	38	44	1630
As	920	884	