HORIBA

- O/N/H Analyzer EMGA Series -
- C/S Analyzer EMIA Series -

APPLICATION

Purity Analysis in Precious Metal Recycling

Background / Challenges - Requires recycling at very high purity -

Background

While precious metals such as Au, Ag, Pt, and Pd are finite materials, they are essential for electronic components and functional materials. Therefore, it is important to separate and extract the necessary precious metals from the final products and recycle them as high-purity precious metals in order to secure resources and reduce costs. Impurities, which must be controlled, include light elements such as carbon, sulfur, oxygen, and nitrogen. For example, Au (gold) used in electronic devices must be at least 99.999% pure.

Challenges

Few instruments are capable of accurately quantifying extremely small amounts of light elements. Additionally, to ensure quality, it is necessary to analyze as many samples as possible in a short amount of time, without pretreatment, and with the ability to recover the samples after analysis. This is crucial because the samples are expensive.

Solution from HORIBA

Testimonial from quality testing division of a recycle manufacturer

The EMIA and EMGA can analyze extremely small amounts of impurities in 1-2 minutes, which is useful for quality assurance. The Auto Sampler is also very efficient, as we have a very large number of samples.

EMIA		EMGA	
Sample weight (g)	Carbon (ppm)	Sample weight (g)	Oxygen (ppm)
1.05	3.3	0.55	4.9
1.01	3.5	0.57	4.4
1.02	3.1	0.39	4.1
Average	3.3	Average	4.5
Standard deviation	0.2	Standard deviation	0.4

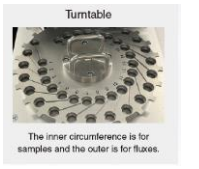
Note: The results in this table are just for reference purpose.

Advantages of the EMIA/EMGA Series

- ✓ Oxygen (O), nitrogen (N), Carbon (C) and Sulfur (S) in precious metals can be analyzed only in a few minutes.
- ✓ Analysis is possible with sample volumes of 1 g or less.
- ✓ Precious samples from used samples can be collected after analysis.

The Auto Sampler for the EMIA/EMGA series

- **Maximized accuracy and reproducibility**
  Minimizes human errors and ambient dust contamination, resulting in precise and consistent results.
- **Enhanced safety**
  Standard equipment with safety covers to reduce risk of injury and sample contamination.
- **Improved productivity and reduction of operator workload**
  It facilitates more efficient operation and sample handling, resulting in reduced processing time and increased sample throughput.



Product Website

Inquiry Form

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