



Assaying of Silver in Silver and Silver Alloys

Determination of Silver Assay according to IS 2113 using the Potentiometric method with Sodium Chloride

HIGHLIGHTS

- Compact and Robust design
- Superior precision
- Reliable results
- Advanced software
- Customised reports
- Quality services
- Guaranteed response time



The Silver assay is an important analytical parameter used to determine the purity and content of Silver in a sample. It provides quantitative information about the amount of elemental silver present in alloys, ores, or commercial Silver products. The assay is commonly performed using titration or instrumental techniques, where Silver ions react with specific reagents to form measurable compounds. The result of the Silver assay helps in assessing the quality, purity and commercial value of the Silver-containing material.



DETERMINATION OF SILVER IN SILVER ALLOY

According to IS 2113 standard, the determination is carried out by precipitation titration, where Silver ions react with a standard sodium chloride solution to form Silver Chloride. The Eco Titrator enables efficient analysis, reduces manual work, and increases laboratory productivity.

CONCLUSION

The determination of Silver content by titration is a precise, reliable, and official method usable for various Silver Alloys according to IS 2113 standard.

The Eco Titrator offers the opportunity to customize the system according to user needs and expand it for other required titration applications on metal alloys, such as copper determination.

SILVER ASSAY ANALYSIS

Approximately 0.3–0.5 g of the Silver Alloy sample is weighed into a clean 150 mL beaker. 5 mL of 33% nitric acid is added, and the beaker is covered with a watch glass. The mixture is heated on a hot plate at approximately 100 °C until the sample dissolves completely and the evolution of nitrogen oxides ceases. After cooling to room temperature, 80 mL of ultrapure water is added. The resulting solution is titrated with 0.25 mol/L sodium chloride solution using an Ag Titrode until the first equivalence point is reached.

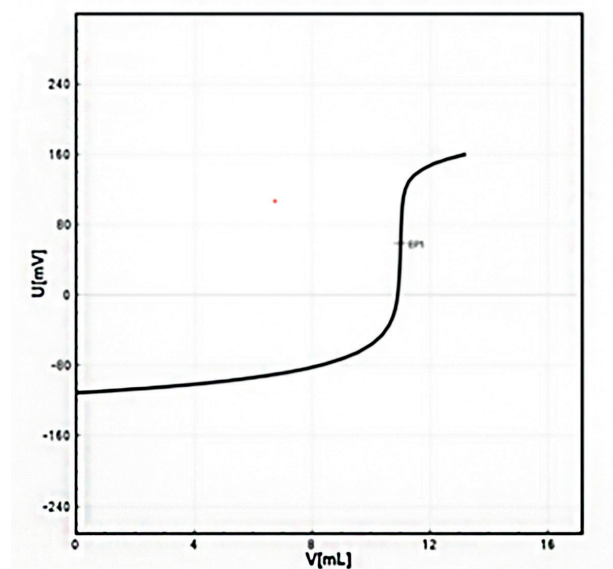


Fig. Example titration curve of the silver assay determination in silver alloy with the Eco titrator.

Reliable protection against system failure and downtime.

***Protect your investment, extend system life, and ensure peak performance with
Metrohm India Quality Services.***

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