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JAPANESE INDUSTRIAL STANDARD

Methods for Determination of
Lead in Zirconium and
Zirconium Alloys

JIS H 1673—1985

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Methods for Determination of Lead
in Zirconium and Zirconium Alloys

H 1673-1985

1. Scope

This Japanese Industrial Standard specifies the methods for determination of lead in zirconium and zirconium alloys.

2. General Matters

General matters common to analysis method shall be in accordance with JIS H 1650.

3. Classification of Methods

The determination method of lead shall be in accordance with either of the following methods:

- (1) Ion-exchange separation atomic absorption method This method applies to the sample of 0.0004 % min. in lead content.
- (2) Extraction separation atomic absorption method This method applies to the sample of 0.0002 % min. in lead content.

4. Ion-Exchange Separation Atomic Absorption Method

4.1 Summary A sample is decomposed with hydrofluoric acid and nitric acid and lead is adsorbed by passing it through the column of ion-exchange. Then, zirconium is let to flow out. The lead is eluted with hydrochloric acid, added with nitric acid and perchloric acid and organic matters are decomposed by evaporation to dryness.

Thereafter, the residue is dissolved with nitric acid and the absorbance of lead is measured by using an atomic absorption photometer.

4.2 Reagents The reagents shall be as follows:

- (1) Hydrochloric acid (1+2, 1+120)
- (2) Nitric acid
- (3) Nitric acid (1+1)
- (4) Hydrofluoric acid (1+1, 1+9, 1+25) They shall be stored respectively in a polyethylene container.
- (5) Perchloric acid (60 %)

Applicable Standard:

JIS H 1650-General Rules for Chemical Analysis of Zirconium and Zirconium Alloys



Documents

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